HOME SCIENCE
IN COLLEGES AND UNIVERSITIES
IN INDIA

8/37

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MINISTRY OF EDUCATION
GOVERNMENT OF INDIA
1958

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A Publication Sponsored by

THE HOME SCIENCE ASSOCIATION OF INDIA

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CONTENTS

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	Page
INTRODUCTION	i
WHAT IS HOME SCIENCE?	1
WHAT DO STUDENTS STUDY IN HOME SCIENCE?	3
The Arts and Sciences	3
The Home Science Subjects	5
WHAT TYPES OF HOME SCIENCE PROGRAMMES ARE OFFERED IN COLLEGES AND UNIVERSITIES?	17
Bachelor's Degree and other Courses	17
Teacher Training Programmes	17
Post-graduate Programmes	18
WHAT STAFF IS NEEDED?	19
General Considerations	19
Size of Staff	20
Competence of the Staff	20
WHAT SPACE, EQUIPMENT AND OTHER FACILITIES ARE NEEDED?	26
The Home Science Building	26
Classrooms and Laboratories	28
Facilities for Staff and Students	37
Library Facilities and Teaching Aids	38
WHAT IS THE OUTLOOK FOR HOME SCIENCE?	41
The Beginnings were Modest	41
The Aims are Ambitious	43
The Future is Bright	44
LIST OF REFERENCES	46

The focus of home science is on homes and families

Home management:
House students welcome guests

A student teacher in a practical class

INTRODUCTION

This pamphlet is addressed to three groups of readers:

(1) to administrators of colleges and universities who are interested in starting home science programmes in their institutions and who wish to know more about what home science has to offer students and how an outstanding programme may be built;

(2) to administrators and staff members of programmes in home science already in existence who are desirous of strengthening their programmes;

(3) to government officials, parents and other lay persons who wish to acquire a better understanding of what home science has to offer for women's education.

This pamphlet was prepared to serve a need which has long been felt by home science educationists in India. Since home science is a relatively new but rapidly developing field at all levels of education in this country, requests for help in drafting syllabi, in planning and equipping laboratories, in setting up libraries, in designing buildings, and so on, are directed to the few home science trained persons in the colleges. These persons are frequently called upon to interpret home science to parents of young girls, to college and university administrators, and to government officials.

The Home Science Association of India feels one of its professional responsibilities is to make available to interested individuals and groups an informative statement on home science as a programme of education in institutions of higher learning. Such a statement can serve as a guide to educationists interested in starting a home science programme or in improving an existing one.

In April 1957, the Home Science Association of India appointed a committee to look into the matter of preparing a publication which would help to meet some of the above needs. The committee consisted of the following members:

Mrs. Sucy Koshy, Agricultural Institute, Allahabad
Miss Gwen Mathews, College of Nursing, New Delhi
Dr. Leela Desai Shah, Ahmedabad

Miss Justina Singh, Faculty of Home Science, Baroda *
Dr. Sushela Lingaiah, Convenor, Maharani's College, Bangalore

In setting up the committee, the Home Science Association suggested that the group might have the assistance and advice of four technicians who were members of the University of Tennessee|India Home Science Contract Team, as follows:

Miss Claire Gilbert, Faculty of Home Science, Baroda
Dr. Mary E. Keister, Maharani's College, Bangalore
Dr. Berenice Mallory, Lady Irwin College, New Delhi
Dr. Josephine Staab, S. N. D. Thackersey Women's University, Bombay

In September 1957, the manuscript was submitted to all members of the committee and to some ten additional home science educationists in India with a request that it be given a critical reading and that suggestions for its improvement be forwarded to the Convenor of the committee. In October the committee completed its work on the publication and the manuscript was handed over to the Home Science Association.

The following home science institutions furnished the pictures which appear in this publication. Grateful acknowledgement is hereby made for their contributions:

Faculty of Home Science, Baroda University, Baroda
Institute of Home Science, Maharani's College Bangalore
Lady Irwin College, New Delhi
Sri Avinashilingam Home Science College, Coimbatore
S. N. D. Thackersey Women's University, Bombay
Viharilal Mitra College of Home and Social Science, Calcutta
Women's Christian College, Madras

The Ministry of Education and Scientific Research, Government of India, gave assistance with editing and printing the pamphlet. Their generous help and interest are hereby acknowledged.

B. Sushela Lingaiah, Convenor,
Publications Committee,
Home Science Association of India
B. Tara Bai, President,
Home Science Association of India

October 1957

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* Miss Padma Chari, Faculty of Home Science, Baroda, later replaced Dean Singh on the committee.

WHAT IS HOME SCIENCE?

Home Science is . . .

. . . An Academic Programme Which Includes

The Basic Disciplines on which the home science subjects are built: the physical sciences, the biological sciences, the social sciences, the humanities and the arts;

The Applied Disciplines which focus on the problems of home and family living in a changing society: foods and nutrition, textiles and clothing, family health and home nursing, child development and family relationships, home management, household and consumer economics, housing, home furnishing and household equipment, and art in everyday life.

. . . A Multipurpose Programme of Study Which Allows Differentiation in Emphasis and Affords Opportunity to

Develop the student's interests and capacities to achieve a useful and satisfying personal, home and community life;

Prepare for the greatest of all professions—that of wife and mother;

Supplement and improve the student's training in the care and management of the home;

Develop awareness of the needs of all families in a community;

Prepare for careers as Secondary school teachers, as college teachers, as nursery school teachers, as hospital dietitians, as canteen or hostel managers, as workers in the National Extension Services, as research workers, as public health workers, and as social service workers;

Obtain graduate and post-graduate training in home science to meet the need for research and for leaders in home science programmes.

. . . An Educational Programme of Special Value for Women Which Is Designed to

Provide general education through learning the fundamental concepts and principles of the humanities and sciences which have a bearing on the cultural heritage and the development of our country in the world of nations;

Extend intellectual horizons, develop well-rounded personalities, encourage creative thinking, and increase competency in responsible living in a dynamic social order;

Provide specialized education for applying information from many fields of knowledge in handling problems of home and family living;

Develop leaders to spread the knowledge and skills of home science for the improvement of families and communities in a socialistic, democratic nation.

WHAT DO STUDENTS STUDY IN HOME SCIENCE?

THE ARTS AND SCIENCES

Home science as a programme of study at the college level is based on the proposition that the arts and sciences, when brought to focus on homes and families, can help to solve some of their problems and can be used to make people healthier and happier and to make home life more efficient and more enjoyable.

In what ways do the principles of science and art apply to homemaking and family life?

The Physical Sciences

Knowledge of chemistry and physics is applied when home science students study foods and nutrition, textiles, family health and home nursing, home management, and household equipment. For example, students apply their knowledge of physical science when they study:

- the chemical composition of foods;
- the chemical changes which take place in the body when food is digested, assimilated and metabolized;
- the chemical changes which take place in foods under conditions of heat, freezing, drying, etc.;
- the chemical and physical properties of fibres, both natural and synthetic, which are used in clothing and household textiles;
- the testing of textiles for strength and colour fastness;
- the kind of care needed for various textiles, the kind of wear that may be expected from different fabrics;
- the ways to make laundering and cleaning processes efficient for the home and family;
- the home treatments used in various illnesses and injuries;
- the operation and maintenance of household equipment: chulas, heaters, lights, water pumps, etc.;
- the care and repair of electric plugs and cords;
- the operation and maintenance of electric irons—dry and steam.

The Biological Sciences

Knowledge of bacteriology or microbiology, physiology, biology, and hygiene is applied when home science students study foods and nutrition, family health and home nursing, child development. For example, students apply their knowledge of biological science when they study:

- how all living organisms, including human beings, grow and develop;
- how environment and heredity influence health, growth and personality;
- how the food needs of the body are met, and what physiological processes are involved in the utilization of food by the body;
- how the proper processing, preparation, and storage of foods is carried out and what happens when improper methods are employed;
- how a clean water supply is related to the prevention of infection and illness;
- why uncontaminated food and air are essential for the maintenance of optimum health;
- how individuals protect themselves from disease through vaccination, innoculations, or immunization;
- how families may make their water, milk and food supply safe for use;
- the relation of good infant and maternal care to life expectancy;
- how to plan diets for persons suffering from various illnesses;
- how family members may be helped to maintain good health and to return to a state of positive health after an illness.

The Social Sciences

Knowledge of economics, sociology, anthropology, political science, civics, and psychology is applied when home science students study home management, household and consumer economics, child development and family relationships, foods and nutrition, textiles and clothing. For example, students apply their knowledge of social science when they study:

- how the institutions of marriage and the family play an important role in creating a stable society and in preserving the personal and social values of a society;
- how the family contributes to the development of all its members;
- how individuals from infancy to maturity grow and develop and learn to live together;
- how the dietary habits of family members affect their health, energy, and ability to work;

how the standard of living in a country is related to the management of the family's resources and to the use of community resources and of national resources;

how governmental services for families such as schools, health clinics, immunization programmes and malaria control are financed; why they are provided; and how these services affect the welfare of families in rural and urban areas;

how the demands on the family's income change during the life cycle of the family;

how economic and political factors affect food supplies, housing, clothing purchases;

how homemakers and families may participate in and strengthen community living;

how India's plans for the future affect families and how individuals and families in the villages and in urban areas may help the nation to achieve its goals.

The Arts

Knowledge of the arts is applied when home science students study housing, home furnishings, household equipment, textiles and clothing, art in everyday life, food preparation, child development and family relationships. For example, students apply their knowledge of colour and design, of literature and music when they learn:

to create beauty in everyday living through: family ceremonies; selection and arrangement of flowers, furniture and ornaments; floor decorations; and house planning;

to combine beauty and utility in clothing, in household textiles, in crafts used in the home;

to make food attractive and appetising;

to value and treasure the crafts of India and of other nations;

to make a contribution to the cultural interests of the family;

to encourage recreational interests which enrich family life;

to recognize the importance of assuming responsibility for improving their homes wherever they live.

THE HOME SCIENCE SUBJECTS

What are the home science subjects in which students have opportunities to synthesize their knowledge of the arts and sciences in solving problems of home and family living? In home science programmes students study:

Child Development and Family Relationships;
Home Management, Household and Consumer Economics;
Textiles and Clothing;
Foods and Nutrition;
Family Health and Home Nursing;
Housing, Home Furnishings and Household Equipment;
Art in Everyday Life;
Home Science Education.

The specific courses and their nomenclatures in home science programmes differ in institutions but, regardless of the course titles or the number and combinations of courses, they deal with the subjects listed above. In the sections which follow, some of the goals and experiences in each of these home science subjects are suggested. No effort has been made to state complete lists of goals or to suggest all of the experiences which might be provided. The lists are merely suggestive of the variety of activities in which home science students may engage.

Child Development and Family Relationships

The basic attitudes and habits of individuals are formed in the early years of life which are spent chiefly with the mother. If she is a person who is sensitive to the needs of individuals at different stages of their development, if she has an understanding of how children grow and learn, if she knows how to encourage good human relationships, then her children will grow up with character and emotional maturity. The society of tomorrow is being formed in the homes of today. The mothers and homemakers of India of tomorrow can be helped to meet this challenge of the future.

Some of the goals of instruction in Child Development and Family Relationships are:

understanding the role of wife and mother and the preparation needed for it;

awareness of each individual's responsibility for being a useful member of a family group, both in the present and in the future;

understanding the needs of infants, children, and other family members and how these needs may be met;

some ability to care for babies and young children.

In working toward these goals, students are provided such experiences as:

learning about human behaviour, learning to see meaning in the actions of people, learning to influence others and to understand how others are influenced by one's own behaviour;

discussing how young people can prepare themselves for marriage and for homes and families of their own; talking over the adjustments which marriage will require, the new responsibilities which will come with having children, with living in a new household; learning about family planning;

discussing what it means to a woman to have a baby, the emotional and physical needs of the pregnant woman; learning about the changes that take place in the body during pregnancy and childbirth;

planning the preparation necessary for the coming of a new baby into the family, considering the adjustments that will be necessary in the family when the baby comes;

learning to care for an infant, to meet a baby's needs for food, clothing, cleanliness, for mothering and relationships with other family members;

studying how individuals grow and develop from conception to maturity; studying about the influences on growth, about the needs of growing children for food, clothing, companionship, guidance and training, health protection;

observing babies and children at play and in the routine activities of life—eating, sleeping, bathing, dressing, learning to talk—as a basis for discussions of the needs of children;

making toys for children which are artistic, durable, and suited to the developmental level of the children; noting and discussing the responses of children to the toys provided for them;

making notes on how children's interests in toys and games change with age and how physical skills develop in children;

helping mothers to care for babies and children;

keeping records of children's height and weight as a basis for discussion of growth of children;

working directly with children in a nursery school or play group—teaching them songs and dances, playing games, telling or reading stories, helping with art activities (painting and drawing, clay work, etc.), helping with gardening and with care of pets.

Home Management, Household and Consumer Economics

Management of family resources, both human and material, is as important to the progress of this country as the management of national resources at the government level. The collective decisions of families in the management and use of their personal resources influence the formation of a nation's wealth and its capacity to achieve in a democratic manner a higher standard of living for all families. Realization of the goals defined for India will be accelerated through the increased ability of individuals and families to manage wisely their personal and government affairs.

Some of the goals of instruction in Home Management, Household and Consumer Economics are:

- recognizing what resources are available to families;
- understanding how families achieve goals of better living and economic security through wise planning and use of resources;
- some ability to manage time, energy, money, and other personal and social resources of the family;
- application of labour-saving methods and devices to management of work activities in the home;
- understanding the relationships of political and economic factors to family problems of income, saving, spending, etc.

In working toward these goals, students are provided such experiences as:

- making plans for improving the management of their own time, energy, and money;
- studying the differences in the kinds and amounts of resources which families have and what these mean for family life;
- learning to weigh the various factors affecting the expenditure of money, energy, and time in terms of the well-being and satisfaction of family members;
- studying different types of savings and how the form of saving affects the availability of money for emergencies requiring ready cash;
- making family plans for spending and saving in terms of goals of: better food, clothing, and housing; education for children; economic security through life;
- studying the relationship of family buying practices to price of commodities and cost of living;
- learning to use labour-saving methods and equipment to conserve time and energy in homemaking tasks;

- studying how local, national and international situations affect family resources;
- investigating inheritance laws and the ways they affect the economic welfare of families.

Textiles and Clothing

India has a wide diversity in textile designs, colour, craftsmanship, and manufacture. This means that consumers have a great variety of fabrics from which to choose their wearing apparel and textiles for household use. The homemaker's knowledge of the suitability of a fabric for a particular use, her skill in appraising its quality in relation to cost, and her facility in using and caring for it effectively influences greatly the family's appreciation of and satisfaction in the use of textiles.

Some of the goals of instruction in Textiles and Clothing are:

- understanding the relationship of social and economic factors to family problems of clothing textiles;
- knowledge of the properties of different textile fibres and the characteristics of fabrics made from them;
- understanding how clothing protects the health of family members and at the same time adds beauty and satisfaction to daily living;
- ability to plan for family clothing needs and to select various types of textiles for the home in terms of usefulness and beauty and cost;
- some skill in constructing and renovating clothing, in making articles of textiles for the household, and in caring for clothing and textiles in the home.

In working toward these goals, students are provided such experiences as:

- studying the social and psychological aspects of clothing;
- determining clothing needs of family members and the amount and quality of clothing that may be provided for different amounts of money;
- planning clothing for different family members;
- selecting materials for various garments in terms of design, colour, durability, cost, climate, etc.;
- selecting household textiles, applying principles of design and colour and considering cost and wearing qualities;
- studying the different textile fibres, their characteristics, and how they perform under different conditions;

testing fabrics in a variety of ways and in terms of different uses;

experimenting with different types of soaps and cleaning agents to determine their effect on the durability and appearance of fabrics;

learning to care for and store household textiles;

repairing and renovating clothing and household textiles;

making patterns for garments that may be made at home;

selecting the fabrics and making garments for themselves and others that are satisfactory in design, colour, fabric, price, and workmanship and that give satisfaction to the creator and the wearer.

Foods and Nutrition

Probably no other field of home science has more to contribute to the betterment of life in India than does foods and nutrition. Even when the national goals of increased food production are reached, they will not pay maximum dividends unless people realize the importance of adequate nutrition and know how to select and prepare food in terms of nutritive value.

Some of the goals of instruction in Foods and Nutrition are:

understanding the nutritional needs of individuals of different ages and occupations;

ability to recognize evidences of poor nutrition and to plan diets to remedy malnutrition;

ability to select, store, and preserve food;

skill in planning, preparing, and serving meals for families;

understanding the relationship of economic, psychological, and social factors to food and nutrition problems of families, of nations and of the world;

practising good personal food habits;

ability to interest others in eating according to nutritional patterns that will contribute to optimum health.

In working toward these goals, students are provided such experiences as:

learning the constituents of food;

studying the effect of different methods of preparation on nutritive value of foods;

studying about the bio-chemical changes of food in the body;

studying the nutrients required for health and growth;

planning as adequate and attractive diets as possible for families on limited incomes; planning and trying out different means of getting them to eat such diets;

recording, evaluating, and if needed making plans to improve one's own diet;

planning nutritious family meals at different cost levels;

preparing and serving nutritious, attractive, and appetising meals for individuals and families;

planning and preparing nutritious meals for large groups;

planning and preparing nutritious, attractive and appetising diets for various types of illness;

observing the evidences of poor nutrition and studying about how to improve the nutrition of individuals and groups;

observing the effect on adequate nutrition of fads and superstitions about food and planning ways to deal with them;

preserving, storing, and caring for food to conserve nutritive value and palatability and to avoid waste;

learning to use hygienic and sanitary practices in preparing, serving, and storing food;

studying ways to manage time and energy effectively in providing food for families;

learning to make the best use of money available for food through improved buying practices;

learning the importance of each individual accepting responsibility for building better dietary habits for herself and for helping to improve the food habits of her family and of the people wherever she lives and works;

studying the food habits of the different States in India and reasons for their diversity;

studying the food problems of India and planning ways in which individuals may contribute to solving them.

Family Health and Home Nursing

Improved health and better care of the sick are important targets set by the people of our country. The beneficial results of programmes to eliminate community health hazards, to increase immunization, to provide more adequate medical and nursing services, depend on the extent to which individuals and families use these services and apply new knowledge in their homes and family living. A mother's attitude, knowledge and skill in these matters affect the health and physical welfare of the entire family.

Some of the goals of instruction in Family Health and Home Nursing are:

realization of the importance of good health for individual and family welfare and morale;

some ability to achieve positive health for self and family members;

concern for the provision of facilities for health and hygiene for all people;

knowledge of the resources in the community to which families may turn for guidance and assistance in family planning and other aspects of health care;

some ability to recognize the symptoms of ill health;

some ability to care for the sick in the home and to render first aid in case of accidents;

understanding the value of good health.

In working toward these goals, students are provided such experiences as:

studying the characteristics of good health;

studying methods of preventing disease;

planning various measures which families and individuals can carry out to prevent the spread of common ailments;

studying about the importance of a clean water supply and learning ways to purify water in the home;

investigating public and private facilities for health care in a locality;

visiting health centres, clinics, etc. in the community; investigating plans for improvements in health care conditions and facilities in a given locality;

learning how to care for the sick in the home; learning entertainment for sick children and adults;

planning, preparing and serving food for the sick;

learning how to administer suitable first aid treatment in case of accidents or emergencies;

studying the possible dangers of using unscientific health practices and treatments of illness;

learning where to get vital statistics and how to interpret them;

discussing the causes of maternal and infant mortality and how mortality rates may be reduced in this country.

Housing, Home Furnishings and Household Equipment

Housing affects the physical and mental health of family members, and the shortage of suitable housing at a price which families can afford to pay is a problem of individual and national concern. Families need to take responsibility for using the available housing effectively and for improving it. The ability to make wise selections and to take proper care of home furnishings and equipment can conserve the resources of the family and add to family health and happiness.

Some of the goals of instruction in Housing, Home Furnishings and Household Equipment are:

- realization of how housing affects the physical and mental health of family members;
- ability to plan for livable and attractive housing at different levels of cost and suited to the needs of various families;
- skill in selecting attractive home furnishings and in arranging them effectively;
- ability to select suitable home furnishings and accessories at various cost levels;
- ability to select, operate, and care for household equipment.

In working toward these goals, students are provided such experiences as:

- planning housing needed by families of various sizes, and determining its cost;
- reading and evaluating house plans;
- determining the factors which need to be considered in deciding whether to purchase or to rent a house;
- studying the operation of various housing schemes in India;
- planning and selecting furnishings for homes at different levels of cost;
- determining the relationship of design, materials, and workmanship to cost of housing and furnishings;
- studying and applying art principles in selecting furnishings and equipment for a home;
- choosing Indian arts and crafts of good quality and design to use in furnishing a home;
- determining the factors to consider in selecting different pieces of household equipment;
- using different types of household appliances and equipment in order to learn about the principles of their operation;

comparing the suitability and performance of various household appliances and equipment;

caring for and making simple repairs on household equipment;

purchasing and making furnishings and household equipment for the home science department.

Art in Everyday Life

The enrichment of life through application of the arts influences our individual and family happiness. Sensitivity to beauty, to the creative forms of expression in literature, music, crafts, etc. and to other aesthetic values in life is cultivated in the home. Daily living in an environment full of beauty can be achieved through individual and family effort.

Some of the goals of instruction in Art in Everyday Life are:

awareness of the importance of beauty in surroundings;

desire to create beauty in the home;

understanding of principles of art;

ability to apply principles of art to the selection of clothing, household textiles, and home planning and furnishing.

In working toward these goals, students are provided such experiences as: **

studying principles of rhythm, balance, proportion, line, design, colour, etc. and observing the application of them to clothing and furnishings;

selecting clothing and accessories for self and others which are artistic and becoming;

selecting home furnishings and equipment of good design;

planning a small flower garden and|or pots of flowers for home decoration;

planning and making wall and floor decorations for different occasions;

selecting and arranging a variety of art objects suitable for home furnishings;

finding examples of art objects of good design at low cost;

** These or similar experiences are included also under other subjects, since there is opportunity to apply art principles in all aspects of home science.

assembling examples of various arts and crafts of India and judging them in terms of design, workmanship and cost;

selecting and arranging furniture in various rooms of the house;

selecting flowers and flower containers and arranging them for different occasions;

selecting appropriate flowers and using them tastefully as decoration for the hair;

planning artistic homes and furnishings at different cost levels;

learning how to make food and family meals artistic and attractive;

planning and arranging home science exhibits in the schools or colleges;

planning and arranging for festivals.

Home Science Education

In these courses students have an opportunity to study about methods of teaching and to apply their learnings immediately in practice teaching. The extent to which students' experiences in methods and practice teaching are interesting, stimulating, and satisfying has much to do with their decisions to become home science teachers at the school, college or adult level.

Some of the goals of instruction in Home Science Education are:

interest in becoming a successful home science teacher;

understanding of the scope of the home science programme in High school and Higher Secondary school;

understanding of the role of the home science programme in the total school programme;

understanding the administrative and teaching responsibilities of a teacher;

understanding of the developmental stages in human development and their implications for teaching;

some understanding of the needs and interests of pupils of different ages, backgrounds, abilities, etc.;

awareness of a teacher's responsibility for being sensitive to individual differences among pupils;

appreciation of the importance of the home science teacher understanding the needs of families;

ability to prepare adequate plans for home science programmes in schools;

ability to state educational goals clearly and concisely;

ability to use a variety of teaching methods;

ability to choose, prepare, and use a variety of teaching aids;

ability to use democratic procedures in dealing with pupils;

ability to participate satisfactorily in group planning concerning a particular problem;

ability to plan for space, furnishings, and equipment needed in a home science department;

ability to establish satisfactory relationships between school and community.

In working toward these goals, students are provided such experiences as:

observing classes in different areas of home science;

observing the work of instructresses and gram sevikas in extension home science programmes;

observing pupils in home science and other classes, and in other school activities, as a basis for discussing their characteristics and needs; writing reports of observations;

teaching lessons in all areas of home science in a High school or Higher Secondary school;

becoming acquainted with policies of the school where practice teaching is done;

becoming acquainted with school-community organizations such as Parent-Teacher Associations, Mothers' Clubs, etc.;

assisting with making reports of the home science department where practice teaching is done;

selecting, preparing, and using a variety of teaching aids;

discussing various methods of evaluating progress of pupils;

preparing and trying out some evaluation devices;

planning improvements to be made in a particular home science department to make it more adequate and attractive.

WHAT TYPES OF HOME SCIENCE PROGRAMMES ARE OFFERED IN COLLEGES AND UNIVERSITIES?

The programmes in Universities and Colleges are planned and organized to accomplish the goals for home science training in the particular institution. There are opportunities to take a Bachelor's degree programme in Home Science, as well as programmes of post-graduate work and of teacher training. Home science is also offered in Pre-University and in diploma courses.

At the present time, a number of the institutions which offer home science are revising their curricula. The trends in these changes seem to be in the direction of broadening programmes to include all areas of home science, of revising syllabi to help assure a close relationship between topics studied and day-to-day problems of families, of devising means to get effective application of basic arts and sciences to the home science subjects, and of attempting to foster methods of teaching in home science that will help to make the college experience profitable and satisfying for each student.

Brief descriptions follow of various types of home science programmes available in colleges and universities in India.

BACHELOR'S DEGREE AND OTHER COURSES

Courses of study for the *B.Sc. degree in Home Science* usually require three years after the Pre-University or Higher Secondary Certificate. In these programmes students take courses in the physical, biological and social sciences; in the arts; and in home science subjects.**

Home Science is offered as an optional subject in *B.A. Degree* and in Pre-University courses. *Diploma Courses* in Home Science are offered in some colleges.

TEACHER TRAINING PROGRAMMES

The opportunity to prepare to teach home science is available in a limited number of institutions. There are one-year programmes, leading to a Bachelor's Degree in Teaching or in Education, which require a degree in Home Science for admission. There are other one-year programmes which admit students who have taken diploma courses in home science.

**See pp. 6-19 "What Do Students Study in Home Science?"

Some training colleges admit students to the teaching degree in Home Science who have not taken Home Science in their Bachelor's degree programme. It is not possible for non-home science graduates to get, in one year, sufficient subject matter in home science, along with teacher education, to become successful home science teachers. Therefore it is hoped that in the not-too-distant future a basic degree in Home Science will be required for entrance to all post-graduate teacher preparation programmes.

In all teacher training programmes there are included such subjects as principles of education, childhood education, psychology, history and philosophy of education, education in India, curriculum planning, methods of teaching home science, and supervised practice in teaching home science.

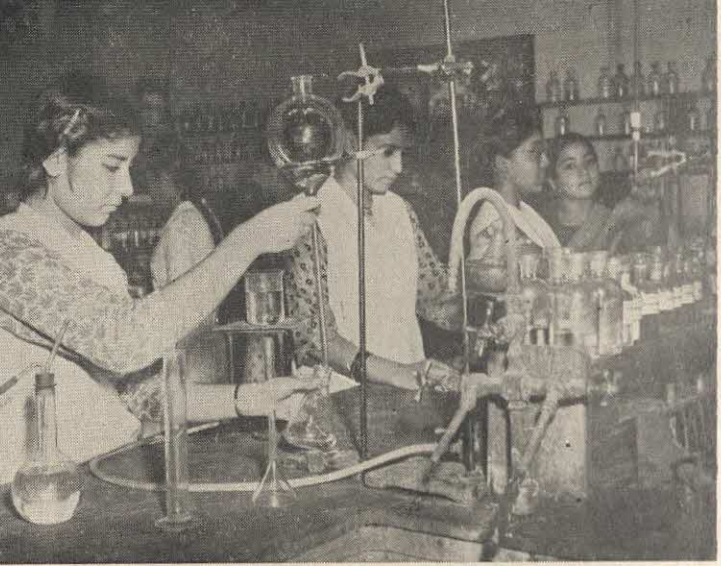
POST-GRADUATE PROGRAMMES

Post-graduate programmes leading to a Master's Degree in Home Science have been introduced only recently. The Faculty of Home Science, Baroda University, offers two post-graduate programmes—one in Foods and Nutrition and one in Child Development. Madras University, at Women's Christian College, offers a post-graduate programme in Institution Management and Dietetics, and one in Nutrition.

There is a need for colleges to expand post-graduate offerings to provide adequately prepared staff for the increasing number of professional opportunities available for persons trained in home science.

A room equipped for staff use in preparing teaching materials is an asset in a home science building

Students preparing to teach home science learn to make and use various types of visual aids



Chemistry and other physical sciences are important courses for students in home science

Student weighing food for experiment with rats

Students learn how to use a mechanical device for washing clothes

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Students watch a demonstration of the use of a pressure cooker

Both active and quiet play are important aspects of a child's day

WHAT STAFF IS NEEDED?

GENERAL CONSIDERATIONS

The home science staff is the keystone of a successful home science programme. Because of the crucial role of leadership which the teacher plays in shaping the attitudes, skills, and learning of her students, important responsibilities are imposed on those who employ teachers. Teachers who are sensitive to the needs of young people, who respect the dignity of the individual, who recognize the existence of individual differences in human personalities and human capacities, and who think of education in terms of life's problems as people face them today, tend to accept their leadership role with understanding and professional interest. A good teacher strives to give human orientation and social direction to her teaching. She endeavours to synthesize the best of the cultural heritage with the overexpanding fund of knowledge in order to provide learning experiences relevant to the demands of contemporary society. In home science, the effective teacher focuses attention on people and the problems they face in everyday living. Information is used as a means to solve problems and to develop a family-centred programme of education.

In a small home science department, the staff may consist of a teaching group of two or three instructors, with one or more of them devoting some time to administration and to counseling of students. Of necessity, each teacher will be expected to teach more than one home science subject. Assigning subjects related to the teacher's training and experience strengthens the quality of instruction provided and enhances the individual's satisfaction in her teaching position. With a larger staff, more specialization in training and responsibilities is possible. As the size of the staff increases, certain members may devote the major portion of their time to administration, research, or guidance of students, and all teaching staff members may be assigned to teach those subjects in which they have had special training.

The extent to which an institution can secure and hold good home science staff is influenced by many factors. Important among these are: (1) appreciative and encouraging administration; (2) attractive salary scales; and (3) availability of comfortable and adequate housing.

The staff needed to develop a successful home science programme depends upon the objectives of the programme in the institution. Institutions offering only a graduate programme of homemaking education will need fewer staff members than those contemplating professional, post-graduate and research programmes in addition to the general programme.

SIZE OF STAFF

The size of the staff needed is governed by: (1) the nature of the syllabus; (2) the number of students enrolled and the maximum size of classes permitted; (3) the number of hours given to laboratory work; (4) the nature and extent of the post-graduate programme; and (5) the amount of experimental or research work undertaken.

The teacher-pupil ratio established in an institution depends on the academic standards sanctioned and will influence the extent to which laboratory work and cooperative pupil-teacher planning can be utilized for effective learning experiences. A student-teacher ratio of 20:1 is a desirable one. Laboratory sections need to be small to permit effective learning and teaching. Adequate time for student-teacher conferences is necessary to develop techniques of cooperative planning and action in a creative educational experience. At the post-graduate level, more individualized teaching is necessary than at the graduate level. Staff time to supervise research and thesis writing is required. Research staff need time to plan, execute and report the results of investigations undertaken. Prompt publication of findings often hinges on time available to the staff for preparation of reports.

The size of the staff should be adequate to provide persons qualified to teach satisfactorily at the college level the subjects assigned to them in the curriculum, to direct post-graduate programmes of commendable standard, and to carry on research of high calibre, if all aspects of the home science programme are undertaken.

COMPETENCE OF THE STAFF

On a home science staff which is considered competent, the individual members not only show professional attitudes towards their work and are well prepared for their respective positions but also work together in a cooperative manner for the improvement of the total programme. Diversity in training, experience, age, and interests contribute to a well-balanced staff. Participation of all staff members in long range planning; in sharing ideas; in continuous evaluation of the syllabus; in discussions of teaching procedures, the building and equipment, the library; in student activities and in professional activities promotes constructive appraisal of the programme as a whole and of its interdependent parts. Progress in the development of a functional home science programme is directly related not only to the proper qualification of individual staff members but also to the competence of the staff as a group. Staff members working well together, sharing ideas and ideals, pooling their specialized skills and interests, are a source of strength to the building of a sound programme of home science.

Each individual staff member should be qualified through preparation, experience, and personal capacities to perform the instructional, guidance, administrative, and/or research service she is employed for. The particular qualifications required for the teaching of the various areas of home science are suggested in the sections which follow.

Child Development and Family Relationships

In addition to a knowledge of the related disciplines of psychology, sociology, and anthropology, specific training in child development and family relationships is needed, including the study of: (1) physical growth and development of normal children; (2) intellectual and social development of normal children; (3) emotional factors in the development of children; (4) family influences on growth and learning of human beings; (5) parent education; and (6) principles of nursery school organization and administration.

The teacher in this area must have skill in making scientific observations of children and in interpreting such observations to students and parents. She must also have the personal qualities which will enable her to work effectively with young children, their parents, and college students, and to help these diverse groups have a variety of constructive experiences in this area of study.

Home Management, Household and Consumer Economics

In addition to the related disciplines of economics, sociology, civic administration and political science, physics, etc., specific training is needed in home management, household economics, and consumer economics. Many fields of science contribute information required to manage effectively the time and energy resources of the family, to understand the importance of the family as an economic unit in the national economy, and to comprehend government policies in relation to family and consumer welfare.

Training in home management should include the study of household processes, work simplification, principles of

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management, long and short term planning, organization and operation of the home, as basic to the conservation of the homemaker's physical health and the promotion of family welfare. Training in household economics should include the study of the family's income, its component parts, contributors and claimants, the use of the income to promote economic welfare throughout the life cycle of the family, and the relation of family income and wealth to the economic and social welfare policies of the nation. Training in consumer economics should include the characteristics of the consumer's market, government policies to protect consumers, government and non-government activities to aid consumers and to improve the market from the consumer's point of view.

The teacher in this area must have skill in analyzing the management problems which families face and in proposing solutions which are feasible. She must also be able to interpret economic and social policies affecting family welfare and to encourage students to study these problems objectively.

Textiles and Clothing

In addition to the related sciences of chemistry and physics and some training in applied art, specific training is needed in textiles and clothing construction techniques, including: (1) the study of fibre, yarn, and fabric composition; (2) finishing processes; (3) care and performance of textiles; (4) the principles of design and colour, their historic and contemporary influence on textiles created for personal and household use; and (5) various construction techniques suitable for making articles of beauty and utility.

The teacher in this area must have skill in relating the artistic and scientific aspects of textiles to their practical use in personal, home and family living. She must also have personal qualities which enable her to develop in her students an appreciation of beauty and to encourage creativity in others.

Foods and Nutrition

In addition to the related sciences of chemistry, biochemistry, bacteriology, and physiology, specific training is needed in foods and nutrition, including: (1) a study of the food needs of the body; (2) means of providing for these needs at different economic levels; (3) marketing and selection of foods involving standards for recognizing quality products which give better nutritive values; (4) proper methods of storage of foods; (5) methods of preparation for retaining nutritive values and for making appetising combinations of dishes for family meals; (6) proper management of time in food preparation and serving; and (7) a study of how to establish food habits for the individual and the family which are conducive to optimum health.

The teacher in this area must have skill in applying her knowledge of nutrition, foods, chemistry, physiology, and bacteriology to personal and family problems of securing a nutritionally adequate diet within the economic means available for this purpose. Her understanding of the human factors influencing food preferences, traditions, methods of cooking, and patterns of serving enhance her ability to relate effectively scientific and traditional knowledge pertinent to the improvement of the physical health of the family. She must also have skill in interpreting, accurately and completely, research findings to students.

Family Health and Home Nursing

In addition to the related sciences of physiology, bacteriology and chemistry, specific training in hygiene and nursing is needed, including: (1) the principles of personal and community hygiene; (2) trends in government programmes for health protection of the individual, the family and the community; (3) interpretation of statistics on the incidence of various diseases, mortality rates, etc. as a measure of the nation's health status; and (4) principles of home nursing and first aid.

The teacher must have skill in using scientific information in conjunction with traditional practices to stimulate objective appraisal of the relation of hygienic conditions and practices to personal and community health. She must also have skill in relating home nursing practices to the needs of patients suffering from various types of diseases and accidents.

Housing, Home Furnishings and Household Equipment

In addition to some knowledge of the arts of architecture, design and colour, and the science of physics, specific training in housing, home furnishings, and household equipment is needed. Training in the economic and architectural aspects of housing should include the study of: (1) types and costs of building materials; (2) laws governing land procurement and use; (3) types and installation of utilities; (4) building codes; (5) city planning and rural development schemes; (6) principles of house planning and use of blueprints as basic to an understanding of the processes and problems associated with providing suitable structures for family living. Training in the artistic and economic aspects of furnishing a home should include the study of: (1) design, colour, texture and functional requirements of furniture; window coverings; wall decoration; floor coverings; and accessories in the home; (2) the family's financial means in relation to housing and home furnishings; and (3) a concern for individual preferences of family members in the matter of creating a livable and attractive home. Training in the scientific and economic aspects of household equipment should include: (1) the principles of construction, operation and upkeep of various types of household equipment; (2) the relation of choice, arrangement and use of household equipment to the energy and time involved in the performance of specific household tasks; and (3) the relative costs of different types of household equipment.

The teacher in this area must have creative ability and the necessary skills to express her creativity in proposing artistic and practical solutions for the actual problems of housing, home furnishings and household equipment faced by families of different income levels in different types of communities.

Art in Everyday Life

Special training in art including the study of colour, line, design, history and psychology of art is needed in addition to a well-rounded background in home science.

The teacher in this area must have skill in applying the principles of art to daily, seasonal, and ceremonial activities in home and family living. She must also be able to convey the relation of art to human behavior as an expression of the aesthetic ideals of a past as well as a contemporary society. She must have the personal qualities which inspire students to an appreciation of the aesthetic values in life and to express their creative ability in ways which contribute to the enrichment of personal, home and family living.

Home Science Education

In addition to a well-rounded background in home science and the related disciplines of human development, psychology and education, specific training is needed in methods of teaching, including: (1) the problem method of teaching; (2) principles and methods of evaluation; (3) curriculum development and supervision; and (4) preparation and use of teaching aids.

The teacher in this area must have skill in analyzing problems of teaching, in understanding human relations, and in relating herself to those with whom she works in the classroom and in the practice teaching centres. She must also have the personal qualities which encourage students to make objective observations in teaching situations, to do creative thinking and to use experimental methods of teaching and evaluation under supervision. Experience in teaching at the Secondary level, and in directing group work in Adult education, enhances the teacher's ability to work effectively with different age levels and to develop in those with whom she works competence in teaching in a realistic and functional manner.

WHAT SPACE, EQUIPMENT AND OTHER FACILITIES ARE NEEDED?

Any discussion of space, equipment, and other requirements for a home science programme must take into consideration a number of factors, such as:

> *The type of programme offered by the college or university:—* What is the syllabus which is to be covered? Does the institution offer home science only in the Intermediate programme? Does it offer a B.Sc. degree or a B.A. degree in Home Science? Or is home science an optional subject in another degree programme in the college? Does the institution have a teacher training programme in home science? Does it have a post-graduate programme? A research programme? Is an Adult education programme, through extension classes, one of the services offered by the institution? Does the college or university sponsor many short courses and workshop?
>
> *The objectives of the home science programme:—* Is the major purpose of the programme to offer young women education for homemaking? Is training for home science professions also offered?
>
> *The strength of the student body:—* How many students are enrolled in each class at present? What is the anticipated growth of the student group over the next five years? Over the next ten years?
>
> *The amount of financial support for the programme:—* What nonrecurring grants have been made for the development of the programme? What recurring grants may be anticipated?

Each college will have a different combination of answers to the questions raised above, hence there is no single answer to the question, "What space, equipment, and other facilities are needed for a home science programme?" This section of the pamphlet is intended to be *a guide to thinking and planning* for a home science department and not a plan for a department. In it some general principles which underlie good planning for space, equipment and other facilities are discussed and some general suggestions are given.

THE HOME SCIENCE BUILDING

Some institutions provide a separate building or a series of buildings designed specifically for the home science programme. Others provide space in existing structures with provision for renovation or remodeling. Whether the institution is constructing a new building or is renovating an old one, planning facilities for the home science programme include: (1) structural plans with blueprints showing the arrangement of classrooms, laboratories, storage rooms, office space, corridors, etc., and the location of utility supply lines for water, electricity and drainage; (2) plans for the arrangement of equipment, actually shown on the floor plan lay-out; (3) specifications for fittings or built-in storage, with working drawings for construction; and (4) cost estimates for each component of the plan—structure, utilities, equipment, and fittings.

Comprehensive planning of this type before actual construction or renovation begins facilitates maximum efficiency in the utilization of space, economy in construction, and the establishment of priorities. If all items cannot be obtained at once, due to limitations on funds, decisions can be made as to which items are most essential for inclusion during the period of structural development and which items can be added subsequently as funds become available. Long range planning of this type contributes to the realization of a unified, functional plan for space and equipment to meet the needs of the home science programme.

Where it is possible to start with a new building, those responsible for its planning will want the building to illustrate all the good structural features of a good home—proper orientation on the site; ventilation to increase the comfort of the building; adequate lighting in all rooms and corridors; arrangement of stairways, hallways and rooms such that traffic circulates smoothly; surface finishes which are attractive, durable and easily cleaned; and adequate storage space.

Safe, clean, convenient storage facilities are essential if the property of the home science department is to be used efficiently and is to be conserved. Plans must be made for storage of such materials as: food grains, foods, spices, and so on; crockery, cutlery and trays; pictures, blueprints, charts; slides, films and filmstrips; art and craft objects; household textile samples; household appliances; household cleaning equipment; toys; microscope and balances; chemicals and glassware; other teaching aids such as models, books, projectors; students' possessions and students' unfinished projects. All these present different problems in the matter of planning proper storage facilities. At a minimum, storage space must be dry, dust-free, vermin proof, and proof against theft and pilfering.

The major purpose in providing a building, equipment and other facilities for home science is to enhance opportunities for student learning. The space, the equipment and the materials in the home science department are silent teachers which teach students just as effectively as the staff teaches students through lectures, demonstrations, and practicals. The way space is allotted, the way furnishings are arranged, the way the department is kept clean and attractive and homelike, are all means through which students are taught the philosophy of home science, a philosophy which embodies an appreciation of beauty, taking care of property, good work habits, and pride in an attractive and convenient setting for everyday living.

In a home science department, just as in a home, the qualities of good taste and beauty, warmth and friendliness, comfort and convenience, safety and sanitation, good quality and economy, efficiency and proper maintenance, are all important.

No matter how adequate the facilities of a college may be, the students' learning will be enriched by using available community facilities, such as: homes, museums, shops, schools, cafeterias and canteens, technical institutes, exhibitions, display rooms, factories and cottage industries, clinics and hospitals, creches or community nursery schools, public housing developments.

CLASSROOMS AND LABORATORIES

Classrooms

While much of the work in home science goes on in laboratories, there is need for space for lectures, discussions, demonstrations, etc. The important features to be considered in providing space for these purposes are:

Good lighting in all parts of the room, with no glare in any one part;

Ventilation to keep the air fresh and circulating at all times;

Location such that outside noises are not too distracting and the teacher need not use more than the normal speaking tone of voice in order to be heard in all parts of the room;

Chairs and tables or desks which allow for flexible arrangement of the room, permitting re-arrangement for small group discussions in an informal atmosphere as well as lectures and demonstrations to large groups, encouraging class discussions with participation by all students and interaction among students as well as between students and teacher;

Chalkboards well lighted and in the range of vision of each student in the room;

Corkboard or notice board for displays and charts;

Electrical outlets in order that audio-visual aids to teaching may be used and that lecture-demonstrations may be given in the classroom.

Laboratories for Related Sciences

Such laboratory sciences as chemistry, biology, physics, microbiology, physiology, and hygiene are closely related to home science and will be found as basic or supporting courses in most home science syllabi. Since such laboratories have been well established in colleges and Universities for many years and the planning and equipping of them is well understood, this pamphlet does not deal with facilities needed for instruction and laboratory experiences in these areas.

Laboratories for Home Science

Certain home science subjects lend themselves particularly to practical applications of the sciences and arts. Students should have laboratory experience when they are studying: (1) meal preparation and serving; (2) clothing selection and construction; (3) care of textiles; (4) home management; (5) infant and child care; (6) home nursing; (7) home furnishing; (8) household equipment; and (9) home science education.

In the sections which follow, facilities needed for laboratory teaching of each of the major areas of home science will be discussed.

Child Development and Family Relationships

Home science students can profit greatly by the opportunity to observe babies and young children at first-hand and then to discuss what they have seen with their instructors. It is worthwhile for them to study children with their parents and also away from their parents. When students are studying infancy, mothers could be asked to bring their babies to the child development laboratory where their development could be observed and where students could see how mothers care for babies at different ages.

Facilities for such a laboratory experience would include equipment such as:

one or more infants' cots with spare bed linens and mosquito nettings,

equipment for bathing a baby,

mats for babies to play on,

collection of toys suitable for infants of different ages,

equipment for preparing food for infants.

For giving students direct experience with children of pre-school age, home science departments sometimes provide a nursery school as a laboratory. A nursery school laboratory offers students practical experiences which contribute to their understanding of personality development and of relationships within the family, especially parent-child relationships. It also provides opportunities for students to enhance their understanding and to increase their skills in the guidance and teaching of young children. A child development laboratory should be so arranged that children have freedom to play and to react normally without being too much aware that they are being studied. Thus provision has to be made for students and other adults to watch children unobtrusively.

A nursery school set up as a child development laboratory may be as simple or as elaborate as the resources of space, staff and finances permit. The home science department can sponsor a "play group" which would bring together a small group of six to twelve children between the ages of three and six for two or three hours each day over a period of several weeks. Or, the home science department can sponsor a "nursery school" which would enroll fifteen to twenty or more children regularly through the school year, giving them education experiences as well as good physical care for three to six hours per day. If the children stay longer than three hours, then provision must be made to give them a meal (or a snack) and a rest period.

If a "play group" is planned, it would run for only a few weeks during the year. In this case, one of the other laboratories could be temporarily converted into a laboratory for the play group. There should be toilet and washing facilities close to the laboratory and some outdoor play space for the children which is safe and clean. The laboratory will also have to provide some toys, games, and books which are suitable for young children's play.

If the setting up of a nursery school laboratory is contemplated, the home science department will need to seek the help and advice of a person trained in nursery school administration, particularly in the administration of a laboratory school. A teacher is needed who has special training in child development and in conducting a laboratory school for the benefit of college students, young children and parents.

For the teaching of family relationships, the laboratory facilities for studying infants and children may be used, and no additional laboratory is needed. Relationships may be studied in every laboratory, and the home management house in particular offers many opportunities for analyzing relationships. A classroom for family relationships teaching becomes a laboratory when provision is made in the classroom for small, informal group discussions, for showing of film and filmstrips, and for discussion of them. Family relationship classes help students to examine their own and others' attitude objectively and to verbalize their changing beliefs and ideas, and for this purpose informal settings are best.

Home Management Household and Consumer Economics

The teaching of the principles of good management of time and energy and the teaching of economical buying practices should take place in all classes—foods, clothing, household equipment, family relationships and others. Some colleges provide a special laboratory for home management and family economics. Such a laboratory provides space for students: (1) to use reference materials, charts, etc.; (2) to study and compare different commodities and household goods and construction materials; (3) to set up activity centres typically found in the home (kitchen, laundry, living room, home nursing, for example) in which they may study work simplification, effect of different arrangements on fatigue and efficiency, and so on; (4) to gain experience in using the traditional as well as the newer mechanical devices and equipment for effecting economies and simplifying work in the home; (5) to get better acquainted with the business aspects of home management—planning, record keeping, book-keeping, etc.

Materials and equipment needed for teaching in this area would include such things as:

samples of consumer goods,
specimens of cheques and other banking forms,
money order application forms, other postal forms,
ledger books, card files, etc.,
household equipment, such as refrigerators, mixers, vacuum cleaners, washing machines, etc.

To give students opportunities to understand and apply the basic principles of management as well as of human relationships and to put into practice what they learn in all their home science courses, residence in a home management house or cottage is sometimes provided for periods which may vary from one week-end to six or more weeks. Such a home management laboratory provides a home setting which approximates the conditions and facilities of a well-managed home at a suitable economic level. In this house or cottage, small groups of students (usually six to eight at one time) under the guidance of an adviser have experience in home maintenance and operation and have practice in acting as homemakers and hostesses. For this purpose, a house, cottage, or apartment has to be suitably equipped for carrying on all the activities of homemaking for twenty-four hours a day over a period of days or weeks.

Textiles and Clothing

In this area of home science, facilities must be provided for students to study: (1) the physical and chemical properties of textiles fibres; (2) selection of textile materials for clothing and for the home; (3) the care of textiles in the home and in clothing; and (4) selection and making of clothing.

Equipment needed for teaching in this area would include such materials as:

- microscopes for teaching physical properties of textile fibres;
- magnifying glasses for observing different weaves and fibres in textile samples;
- samples of textiles from different fibres;
- historic textiles;
- laundering equipment of different types for teaching care of household textiles and clothing;
- iron and ironing tables;
- sewing machines of different makes and mechanisms;
- scissors, needles, measuring tapes, and other sewing equipment;
- large tables for cutting;
- large mirrors;
- glass-front cases, corkboards, and other facilities for exhibiting students' work and other materials of interest to students.

Foods and Nutrition

In this area of home science, facilities and space need to be provided for students to study: (1) nutrition; (2) food selection and purchasing; (3) food preparation and preservation; (4) meal planning, preparation and serving of meals.

Equipment needed for teaching in this area would include such things as:

- cooking devices to illustrate use of a variety of fuels, such as: smokeless chula, sigri, hot plate, kerosene stove, steam cooker, electric range, etc., depending on the economic level of families reached by the programme and the amount of demonstration teaching that is contemplated;
- refrigeration devices of various types;
- sinks;

receptacles for disposal of waste;
tables for demonstration and for students' use;
stools;
tables and chairs (if western type of table service is to be demonstrated);
tumblers, plates and trays for service of family meals;
cooking vessels and measuring devices;
linens for kitchen and dining use;
pressure cooker;
scales;
grinding stone;
containers for storing food grains, spices, and other supplies.

Family Health and Home Nursing

In some colleges, the work in home nursing and family health is taught by members of the Faculties of Nursing or of Medicine. This may make it possible to take advantage of facilities located elsewhere in the institution, and no separate laboratory or separate equipment need be provided. If the laboratory and lecture-demonstration experiences for students are to be supplied by the home science department, equipment such as the following will be needed:

home-type (and|or hospital-type) cots,
pillows, bed linen, and blankets,
basins and towels,
first aid chest or kit,
table for folding bandages and for other demonstrations and
models.

Housing, Home Furnishings and Household Equipment

The laboratory for teaching housing, furnishing, and equipment is, actually, the entire home science building or department. Equipment throughout the home science department should be chosen with a view to teaching students something about: (1) different types of building materials and finishes—the selection, use and care of different floor and wall finishes; (2) the choice, upkeep and attractiveness of different types of furniture and decorations; and (3) the relative economy and efficiency of different types of household equipment. Thus, the equipment in the foods and laundry laboratories, the storage arrangements, the floor and wall finishes, the furnishings, the lighting, the plumbing, the work and recreation areas in the building, all become the laboratories for the teaching of housing, home furnishings, and household equipment. In addition to the materials and equipment found elsewhere in the building, such articles as the following will be needed:

household linens,
samples of rugs and mats,
samples of draperies and curtains and wall hangings,
samples of upholstery materials,
houseplans and blueprints for housing developments,
samples of building materials,
water tap assemblies,
types of electric outlets and switches,
samples of cleaning equipment: mops, brooms, brushes, vacuum cleaner, etc.

Art in Everyday Life

All the furnishings and equipment in the home science department may serve for teaching students about art principles as they apply to home life, to the selection and design of clothing, home furnishings, household textiles, and so on. All of the equipment and furniture and textiles, and other decorative objects bought for the home science department should be selected with the purpose of helping students develop aesthetic appreciation, and skill in applying it to clothing and food, and to the home and its decoration and furnishing.

Facilities needed for providing practical experiences in this area include such things as:

art and craft objects and accessories,
regional costumes and dress,
pictures, slides, etc. illustrating the application of art in everyday life, history of art, history of costume, etc.,
looms for weaving,
materials for hand-block printing, screen printing, batik work,
display cases, corkboards and
a flower garden.

Home Science Education

In this area, students need opportunities to get a variety of experiences related to the profession of teaching. Facilities are needed which help students: (1) become oriented to classroom procedures and to children, youth and adults from the standpoint of a teacher; (2) prepare teaching plans and materials; (3) get practice in using various types of class organization and (4) select and try out various methods and procedures in teaching. Often students find that when they plan to teach certain homemaking skills they need laboratory practice in order to teach these skills successfully. Therefore, both during and following the teaching practice period, students need opportunity to improve their homemaking skills.

Facilities desirable for home science education include:

rooms for classes, seminars, and other group meetings,
laboratory or workroom space,
reference materials,
audio and visual aids,
storage space,
staff office space and
schools where practice teaching may be carried on.

The amount of space needed for home science education will depend on the number of staff and students, whether there is a post-graduate and|or research programme in teacher education, the extent to which the college is providing study and consultation service to home science teachers in the area, and the extent to which laboratory facilities of the college are available for home science education students when they need them.

The room or rooms used for classes, seminars and other group meetings should lend themselves to flexible arrangements. Comfortable chairs and tables that can be arranged for a variety of group activities are desirable. Both this space and the laboratory or workroom space needs to be designed to provide opportunity to demonstrate various teaching methods, to try out different ways of organising and arranging for classes, and to get experience in preparing and using teaching aids. In the workroom one would expect to find supplies and materials for making bulletin boards, tack boards, flannelgraphs and khadigraphs, and work space for preparing and using teaching aids.

Text and reference books as well as bulletins and pamphlets should be kept in the rooms set aside for teacher education or in the library if it is easily accessible. Since fiilms, filmstrips and other audio and visual aids are being used increasingly in schools, provision needs to be made for prospective teachers to gain experience in seeing them used and in learning to use them effectively. This means providing opportunity to use such equipment as a still and movie projector, tape recorder and epidiascope.

Storage space for home science education needs to be carefully planned in relation to the materials, supplies and equipment to be stored. Materials in storage should be easily accessible to staff and students. Storage space and facilities must be provided for such things as: books, pamphlets and other reading materials; any audio-visual equipment kept in the home science education rooms; resource materials for practice teachers; equipment and supplies for making teaching aids.

The home science education staff needs adequate office space. Because teacher-student conferences are highly important in an effective teacher education programme, space conducive to a desirable atmosphere for such conferences should be provided. These offices should be located close to classroom, laboratory and storage space.

Multipurpose Laboratories

A separate classroom and laboratory is not required for teaching each of the above discussed subjects. Several may be combined in one laboratory, and economical planning will result in multipurpose laboratories being set up. For example, instruction and practical experiences in nutrition, food preparation and serving, food preservation, and household equipment may all be combined in one laboratory. In another laboratory, the teaching of clothing, textiles, and home furnishings may be carried on. Laboratory experiences in home management, home nursing, and child care and development may be offered to students in a third laboratory.

Multipurpose laboratories function successfully and economically in departments where the students and staff strength is not large, where there is good planning of storage space, and where careful consideration is given to the schedule of classes and of staff times.

The number of such laboratories needed and the number of each item of equipment needed depends on the syllabus to be taught, the amount of practical experience included in the syllabus, the number of students who are enrolled in each class or in each laboratory batch, and the ability to schedule classes so that one laboratory can serve many batches of students and perhaps be in use every hour of the day.

Laboratories Demonstrate Principles of Health, Art, Relationships and Management

All laboratories should be so planned, equipped, used and maintained that they demonstrate clearly to students the principles which are being emphasized in all the home science classes—principles of health, of art, of relationships of management.

Laboratories should be well lighted and ventilated and screened to protect the health of students and to illustrate well-planned arrangements for modern homes. High standards of cleanliness and orderliness should be maintained in every laboratory (not just in the foods laboratory and in the home nursing laboratory). Working surfaces in all laboratories should be of proper height to promote good posture and to minimize fatigue.

Laboratories should be attractive and colourful so that students are helped to develop aesthetic appreciations and are taught how art principles may be applied to furnishings and equipment, to arrangements of furniture and pictures and art objects, to clothing, to food, and so on.

Good human relationships can be taught in every laboratory, not just in the laboratory set aside for teaching child development and family relationships. Friendly interpersonal relationships are cultivated in foods laboratories, in laboratories designed for teacher training, in clothing laboratories, in home nursing laboratories, in the library, as well as in the home management house laboratory. Through all their laboratory experience students can be helped to learn consideration for others and mutual helpfulness, to learn sharing and awaiting turns with equipment, to learn respect for the ideas of others and common courtesy, to learn to be aware of the feelings and needs of other individuals.

Good management principles are taught in every laboratory. They are taught through the very way in which equipment is selected and purchased, with careful consideration given to the balancing of quality and price. The way in which all laboratories are arranged for efficiency and health and safety teaches principles of management. Adequate storage space helps make it possible to keep things in order and can illustrate management principles. Good work habits and planning which save time and energy can be taught in clothing, foods, home nursing, and child development laboratories as well as in a home management laboratory. The application of the principles of household and consumer economics is made in all classes and laboratories when such principles are applied to food and clothing purchases, to housing and equipment, to family relationships. Maintenance, upkeep and repairs to all laboratories and all equipment in the home science department should be of such quality and consistency that respect for property and the conservation of valuable resources is taught to students.

FACILITIES FOR STAFF AND STUDENTS

Office space for staff members should be provided for the purpose of helping them to do their own work, more efficiently and to serve their students more satisfactorily.

Staff members, like students, need work space which is well lighted, well ventilated, attractive, and reasonably free from noise and other distractions. They require some space where they can study; can make preparation for their lectures, demonstrations and laboratory periods; can correct examinations and students' records and notebooks. It is not necessary for each staff member to have a private office, and one office may well be shared by two or more staff members. However, a schedule should be arranged so that there are certain hours during the week when each staff member occupies the office alone, so a student may come in for private conferences with her instructor and the two may talk and plan without interruption and without disturbing the teacher's office-mates.

Unless a lounge is conveniently placed elsewhere in the college, provision should be made in the home science department for a lounge which would serve as a rest room for day students, a pleasant gathering place for all students during the interval for tiffin or when their classes are not in session, and a meeting place or club room for students. Adequate toilet and washing facilities should be close by.

Canteen or cafeteria space suitable to promote the serving of nutritionally desirably meals or snacks in a clean, attractive atmosphere should be provided, especially for those students who do not live in the hostel and have to come from some distance tc reach the college each day.

LIBRARY FACILITIES AND TEACHING AIDS

Reading and reference materials should be easily accessible to students, with a convenient, comfortable, quiet place for using them. Work tables, chairs of proper height for the tables, good lighting and ventilation, interesting displays of books and magazines on open shelves for ready access and leisure-time browsing, all help to encourage students to use and enjoy the library. Giving students the privilege of borrowing books to take home to read and share with family members, and having the library open at times when students are free to go there, encourage profitable use of the library facilities.

There should be a trained librarian to look after the library and to help students locate materials they need, to encourage them to make wise selection of books, and in other ways to serve the students efficiently. The librarian should be responsible for setting up attractive displays of new books, charts and other acquisitions as well as keeping inventories and records of borrowings. Use of the library by staff members helps to encourage its use by students.

Every home science department should have the basic reading and reference material necessary for teaching and learning in the various areas of home and family life. It should have material for cultural and inspirational reading, and books and technical journals for staff use.** Libraries elsewhere in the university or college may be used in such areas as the physical sciences, biological sciences, arts, etc.

The home science library should be kept up-to-date with recent publications, particularly in fields where much research is going on and change is rapid. Every library should have a scheme for discarding outdated materials.

It is a well-accepted principle of pedagogy that the lecture method by itself does not result in learning which is very well retained. Other senses in addition to that of hearing must be stimulated if the student's interest is to be caught and held and if real and vital learning is to take place. Thus it is that a constructive programme in home science will be well supplied with various other aids to learning in addition to the instructor's notes for lectures. Students respond with enthusiasm and achieve a better grasp of subject matter when lectures are supplemented with other types of experiences—with materials they can touch and manipulate, with illustrations they can look at and study, with things they can listen to and watch.

As budgets permit, these aids to teaching may be acquired. A list of desirable teaching aids for home science would include such materials as:

charts and graphs,
pictures,
books, pamphlets, periodicals, newspapers,
models,
art and craft objects,
textile samples,
corkboards and khadigraphs,
materials for use in preparation of exhibits,
slides and filmstrips,
films,
projectors,
tape recorder,
record player and records and
cyclostyling or reproducing mechanism of some kind.

BANIPUR

Teaching aids which are intended to be shared by the entire department may be stored together in some centrally

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**In this pamphlet, no attempt is made to list the reference and reading material for the various areas of home science. See: *A Basic Book List in Home Science for Colleges*, by The Home Science Association of India. In preparation.

located repository (possibly in the library) with one individual on the staff made responsible for keeping inventories and records of use. Other equipment, ideally, should be stored in or near the laboratory where it is most frequently used.

Teaching aids are used not only in classrooms but also in laboratories, in corridors and lounges, in assembly rooms, and so on, so that learning goes on during all the time the students spend in the home science department, during leisure hours as well as during class hours.

WHAT IS THE OUTLOOK FOR HOME SCIENCE?

THE BEGINNINGS WERE MODEST

During the past two decades the number of women students seeking college education has steadily and rapidly increased. A large majority of women who complete their college education get married and become homemakers. Educators have been concerned as to whether these women were really receiving the kind of education in colleges which would be not only intellectually stimulating but also of help to them in their vocations as wives and mothers. The University Education Commission, appointed by the Government of India in 1948, carefully studied the whole question of women's education in Indian universities and ably voiced the felt need for a differentiated education for women. In their report they stated:

> " . . . Women should share with men the life and thought and interests of the times. They are fitted to carry the same academic work as men, with no less thoroughness and quality. The distribution of general ability among women is approximately the same as among men.
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> "Yet, though men and women are equally competent in academic work, and though many subjects are equally interesting and appropriate, it does not follow that in all things men's and women's education should be identical. Indian universities for the most part are places of preparation for a man's world. Little thought has been given to the education of women as women. Women must share the same programme as men or go without. There are ways in which many women's interests or appropriate fields of work diverge from those of men, and educational programmes should take that fact into account.
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> "In every country, no matter how far the 'liberation' of women has gone, husbands and wives commonly play different parts. In general the man provides the income and the woman maintains the home. For many women who crave to achieve standards of excellence, the home provides an excellent setting. For a woman to give the home design, beauty, order, and character, without being herself a slave to home-keeping and without imposing

> onerous prohibitions and restrictions on the freedom of movement of children, is a high art. It will not be acquired by chance, and for many women its acquisition will be impossible except through education . . . "**

A decade ago many Indian women leaders were not in favour of a practical education for homemaking. In academic councils and in senates, women members actively opposed differentiated courses of studies for women. They argued that an education in common with men was helping women to overcome their feelings of seclusion and consequent lack of opportunities for acquiring mental disciplines. To give a special education for women would have the effect, it was felt, of pushing them back into their shells and not giving them enough scope to take their rightful place in a world dominated by men. Besides, it was argued, the art of homemaking is imbibed in the home and there is no need to go to colleges for such an education.

However, other thoughtful leaders among the women saw the need for scientific training in homemaking to supplement and strengthen the best traditional patterns. They pointed out that in many homes in India the skills of homemaking are of a high standard, but these needed to be supplemented and improved with the knowledge which science and research have made available. Furthermore, it was recognized that these skills must be taught to many young women through educational opportunities. To achieve this objective, the All-India Women's Conference in the year 1932 established the Lady Irwin College in New Delhi. This institution pioneered in providing education for homemaking. At the end of a three-year course in Home Science, a diploma was awarded. In 1942 Madras University started offering a B.Sc. degree course in Home Science. In 1950 the B.Sc. degree course was added at Lady Irwin College. Since then, B.A. and B.Sc. degree courses in Home Science have been established in other universities, such as Baroda, Mysore, Nagpur, and S. N. D. Thackersey Women's University. Post-graduate studies in home science are also offered at Madras and Baroda Universities. The latter has the distinction of having a separate Faculty of Home Science.

Today, Colleges and Departments of Home Science are receiving more applications for admission to study home science than can be accommodated. Every year hundreds of qualified students have to be refused seats in home science

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*******Report of the University Grants Commission* (December 1948—August 1949). Vol. I. Published by the Manager of Publications, Delhi. p. 393.

colleges or departments. Colleges can hardly keep pace with the enthusiasm of students and of parents who wish their daughters to have this training. Women have come to realize that home science training can be of immense practical importance to them. It can help them not only to improve themselves but also to improve their family and community living. Students have discovered that the organization of home science courses in colleges is both attractive and challenging. They have found, further, that the special importance now being given to home science in the revised schemes for education in India has opened up more teaching opportunities in Secondary schools and colleges. They have observed that the establishment of Home Science Wings in the Agricultural Extension Training Centres for training gram sevikas has created a demand for home science trained graduates to carry on these vast programmes or to be consultants to the programmes.

THE AIMS ARE AMBITIOUS

What are the aims of home science training for the women of India? Since the majority of women become homemakers they need a general education in homemaking, with emphasis on practical experiences in dealing with family problems, which will prepare them to take their places in their homes with keen interest and real competence. It is important also for home science to take into account the necessity of preparing some women for other callings in addition to homemaking. The University Education Commission have wisely drawn attention to this fact in their report:

> "The greatest profession of women is, and probably will continue to be, that of homemaker. Yet her world should not be limited by that one relationship. There are varied conditions which may properly lead a woman to seek fulfilment of her life in other fields. Among the great contributors to human welfare have been some men who determined to forego home and family in order to commit themselves wholly to the chosen work of their lives. Women should have this same opportunity. The place of wife and mother offers opportunity for exercise of the highest qualities and skills, yet for a woman to decide that she can best fulfil her aims by living a single life should not put her under a social disability. Sometimes, also, there is a period before marriage during which a young woman can do useful work, such as teaching or nursing. Sometimes the loss of a husband makes her the bread winner for the family. When children are grown, there often remain ten to twenty-five years of

vigorous life in which a woman may wish to have a useful career. Sometimes husband and wife wish to share a common occupation through the years. Sometimes with women, as with men, the needs of home and family leave time for useful and interesting occupations. For all such circumstances educational opportunities should be available . . . "**

In this period of rapid expansion of home science courses in institutions of higher learning, there is need to consider the kinds of professional preparation which should be offered. For women who from choice or necessity wish to have a profession outside the home, there are a number of home science careers. Many women trained in home science are now teaching home science in schools and colleges and in the Home Science Wings of the training centres of the Agricultural Extension programme. A few are dietitians in hospitals, some are hostel managers. Some are working in nursery schools, in child care centres, in research, and in social welfare programmes. Increasing opportunities are coming in the business world also, as businesses seek the advice of home science experts in test kitchens, in soap manufacturing companies, and so on. Indications are that job opportunities will expand and that colleges offering home science will need to train more young women to fill these jobs.

Home science colleges must shoulder the responsibility for post-graduate training to meet the need for leadership in the home science programmes of India and in the home science based professions. At present only two institutions offer post-graduate training in home science. After stabilizing their undergraduate programmes, many more of the home science centres need to plan and introduce post-graduate training and research facilities if the demands for professional personnel are to be met adequately during the next few years.

THE FUTURE IS BRIGHT

What can a nation look forward to when it educates more and more women—wives and mothers and professional workers—who are well trained for the jobs they have to do? Home science training has a significant contribution to make in support of the five-year plans of India which aim at the establishment of an ordered, healthful, socialistic state. In a democratic state, the spread of home science education among women in schools and colleges and among the people by extension services will help the nation to achieve its great goal of improvement of home and family living in the

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**Report of the University Education Commission.* p. 395.

cities, in the towns, and in the villages. As home science training spreads, many good things will become a part of every family's daily life:

> all the resources of the family—time and energy and money—will be managed with maximum efficiency to derive the utmost benefit from them; women will employ labour-saving devices to lessen fatigue, to make daily work less of a drudgery, to enable themselves to spend more time as companions with other family members;
> money will be budgeted not only to provide adequate shelter and clothing, but also to insure other necessities like education and recreation; women will understand the necessity of providing for some manner of saving, small or large;
> houses will be planned and built for safety, sanitation, and convenience; women will know how to furnish and equip their homes with simplicity and elegence;
> the causes of disease will be understood and every care will be taken to prevent disease and accidents; women will know how to keep their families healthy and how to take care of those who are sick;
> the physical health and nutritional state of every family will be improved; women will know how to plan well-balanced meals and how to cook them to conserve the nutrients; women will serve tasty food to their families in attractive ways;
> the art of food preservation will be cultivated so that the best use is made of surplus fruits and vegetables;
> attractive clothing, suitable furnishings, and appropriate household linen will be provided through money wisely spent; women will know how to launder and care for clothing and other household textiles so that their usefulness is prolonged;
> household arts and crafts will be cultivated, not only to add beauty to the homes but also to provide supplementary income to the families;
> human needs and human development will be understood; women will know how to make a good environment for the full, healthy growth of all members of the family; women will help all family members understand their privileges and responsibilities and will help them make the continual adjustments necessary to living a happy, creative life.

In short, home science training for women is one of the keys to a better standard of living for all families in our nation.

LIST OF REFERENCES

Devadas, Rajammal P. *What is Home Science.* Bulletin No. 3. Department of Extension Services. Sri Ramakrishna Mission Vidyalaya Teachers College, Coimbatore District.

Home Economics in Colleges and Universities. Planning Space and Equipment: Prepared jointly by the American Home Economics Association and the Home Economics Education Branch, Office of Education; United States Government Printing Office, Washington. 1956.

Home Economics in Higher Education. Criteria for Evaluating Undergraduate Programs: Washington, D.C.: American Home Economics Association. 1949.

Report of the University Education Commission. (December 1948—August 1949). Volume I. Published by the Manager of Publications, Delhi.